

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No.: 09/898,844 Confirmation No.: 1464

Applicant(s): Edward T. HESSELL et al. Group Art Unit: 1797  
Examiner: Ellen M. McAvoy

Filed: July 3, 2001 Customer No.: 27123

For: COMPOSITIONS OF GROUP II AND/OR GROUP III BASE OILS AND  
ALKYLATED FUSED AND/OR POLYFUSED AROMATIC COMPOUNDS

**DECLARATION OF MAUREEN HUNTER UNDER 37 C.F.R. §1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

I, Maureen Hunter, declare:

1. I received a Bachelor of Science degree in Chemical Engineering in 1983 from The State University of New York at Buffalo. I received a Master of Science in Chemical Engineering in 1988 and a Doctorate of Philosophy in Chemical Engineering in 1992 from The Pennsylvania State University.
2. From January 1993 to May 1996, I was employed by King Industries, Inc., in Norwalk, Connecticut as an Applications Specialist in the Lubricant Additives Division. My responsibilities included planning technical service work for customer projects and product development and running all technical service applications test equipment and analytical tests.
3. From May 1996 to the present, I have been employed by King Industries, Inc., in Norwalk, Connecticut as the Lubricant Additives Division Technical Service Manager. My responsibilities include managing the Lubricant Additives Division Technical Service Department, serving as technical interface with Research and Development to coordinate application testing of new products, and formulating lubricant additive packages using corrosion inhibitors, extreme pressure and antiwear agents, antioxidants, and metal deactivators for various applications including hydraulic fluids, greases, industrial and

automotive gear oils, metalworking fluids, and rust preventatives. My technical experience includes studying the water separation (demulsibility) properties of various lubricant compositions.

4. I have read and understand the above-referenced application and its prosecution history, including the Office Actions dated May 16, 2007 and January 2, 2008, the Amendment and Response dated October 16, 2007, and the Declaration Of Dr. Edward T. Hessell Under 37 C.F.R. §1.132 dated October 11, 2007 ("the Hessell Declaration"). I have also read and understand U.S. Patent No. 6,333,298 to Waddoups et al. ("the Waddoups patent"), upon which the Examiner is relying in rejecting the pending claims of the above-referenced application. Based on all my experience and knowledge, it is desirable that, for the above-referenced application, lubricating compositions have water separation (demulsibility) in order to reduce or avoid various problems such as loss of lubricity, corrosion, additive degradation, and filter plugging.
5. I understand that the Hessell Declaration presents the results of experiments comparing the water separation (demulsibility) of three compositions prepared in accordance with the above-referenced application to analogous compositions adjusted to contain a 400 TBN overbased calcium sulfonate. The presence of the calcium detergent is required by the Waddoups patent (pages 3-9 of the Hessell Declaration). The results of these experiments clearly demonstrate that addition of 400 TBN overbased calcium sulfonate to the compositions of the above-referenced application significantly and adversely affect the water separation (demulsibility) properties, as measured by the water separation time.
6. Based on my technical training and experience with lubricant compositions and their physical properties, and based on the results set forth in the Hessell Declaration, in my opinion other calcium detergents, such as calcium phenates, salicylates, sulfonates, and mixtures thereof (as described in the Waddoups patent) would also significantly and adversely affect the water separation if added to compositions of the above-referenced application. Furthermore, the water separation would be significantly and adversely affected by addition of the above-mentioned calcium detergents to compositions of the above-referenced application, either in their overbased form or their neutral form.

7. In my opinion, the results set forth in the Hessell Declaration would apply generally to calcium detergents. One of the bases for my opinion is that calcium detergents are surface active agents that generally consist of a polar head with a long hydrophobic tail, where the polar head is typically a metal salt of an acid organic compound. As a result, calcium detergents act at the oil-water interface to reduce the surface tension of water and promote the mixing of water and oil to form an emulsion.
8. I further declare under penalty of perjury that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patents issued thereon.

29 August 2003

Date

Maureen Hunter

Maureen Hunter